

INFORMATION DISCLOSURE  
CITATION IN AN  
APPLICATION  
(PTO-1449)



ATTY. DOCKET NO.  
007734 FPS/MMCS/APC

SERIAL NO.  
10/665,165

APPLICANT  
Joseph Young J. PAIK

FILING DATE  
September 18, 2003

GROUP

**U.S. PATENT DOCUMENTS**

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	4,957,605	09/18/90	Hurwitt et al.			04/17/89
	5,240,552	08/31/93	Yu et al.			12/11/91
	5,369,544	11/29/94	Mastrangelo			04/05/93
	5,444,837	08/22/95	Bomans et al.			12/29/93
	5,665,214	09/09/97	Iturralde			05/03/95
	5,695,810	12/09/97	Dubin et al.			11/20/96
	5,824,599	10/20/98	Schacham-Diamond et al.			01/16/96
	5,825,356	10/20/98	Habib et al.			03/18/96
	5,831,851	11/03/98	Eastburn et al.			03/21/95
	5,838,951	11/17/98	Song			08/28/96
	5,859,777	01/12/99	Yokoyama et al.			05/13/97
	5,871,805	02/16/99	Lemelson			04/08/96
	5,943,550	08/24/99	Fulford, Jr. et al.			03/29/96
	6,012,048	01/04/00	Gustin et al.			05/30/97
	6,037,664	03/14/00	Zhao et al.			03/31/98
	6,059,636	05/09/00	Inaba et al.			07/09/98
	6,096,649	08/01/00	Jang			10/25/99
	6,100,195	08/08/00	Chan et al.			12/28/98
	6,114,238	09/05/00	Liao			05/20/98
	6,150,270	11/21/00	Matsuda et al.			01/07/99
	6,157,864	12/05/00	Schwenke et al.			05/08/98
	6,181,013 B1	01/30/01	Liu et al.			03/13/00
	6,212,961 B1	04/10/01	Dvir			02/11/99
	6,226,563 B1	05/01/01	Lim			09/04/98
	6,228,280 B1	05/08/01	Li et al.			05/06/98
	6,237,050 B1	05/22/01	Kim et al.			09/04/98
	2001/0006873 A1	07/05/01	Moore			02/13/01
	6,259,160 B1	07/10/01	Lopatin et al.			04/21/99
	6,281,127 B1	08/28/01	Shue			04/15/99
EXAMINER			DATE CONSIDERED			

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165	
				APPLICANT Joseph Young J. PAIK		
				FILING DATE September 18, 2003	GROUP	
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	6,317,643 B1	11/13/01	Dmochowski			03/31/99
	6,339,727 B1	01/15/02	Ladd			12/21/98
	6,355,559 B1	03/12/02	Havemann et al.			11/03/00
	6,391,780 B1	05/21/02	Shih et al.			08/23/99
	6,417,014 B1	07/09/02	Lam et al.			10/19/99
	6,427,093 B1	07/30/02	Toprac			10/07/99
	6,432,728 B1	08/13/02	Tai et al.			10/16/00
	6,449,524 B1	09/10/02	Miller et al.			01/04/00
	6,455,415 B1	09/24/02	Lopatin et al.			04/16/01
	2002/0165636 A1	11/07/02	Hasan			04/24/02
	6,484,064 B1	11/19/02	Campbell			10/05/99
	6,495,452 B1	12/17/02	Shih			08/18/99
	2002/0193899 A1	12/19/02	Shanmugasundram et al.			05/01/02
	2003/0017256 A1	01/23/03	Shimane			06/12/02
	6,515,368 B1	02/04/03	Lopatin et al.			12/07/01
	6,517,414 B1	02/11/03	Tobin et al.			03/10/00
	6,528,409 B1	03/04/03	Lopatin et al.			04/29/02
	6,537,912 B1	03/25/03	Agarwal			08/25/00
	6,580,958 B1	06/17/03	Takano			11/22/99
	6,605,549 B2	08/12/03	Leu et al.			09/29/01
	6,607,976 B2	08/19/03	Chen et al.			09/25/01
	6,609,946 B1	08/26/03	Tran			07/14/00
	6,616,513 B1	09/09/03	Osterheld			04/05/01
	6,624,075 B1	09/23/03	Lopatin et al.			11/05/02
	6,630,741 B1	10/07/03	Lopatin et al.			12/07/01
	6,660,633 B1	12/09/03	Lopatin et al.			02/26/02
	6,708,074 B1	03/16/04	Chi et al.			08/11/00
	6,708,075 B2	03/16/04	Sonderman et al.			11/16/01
	6,728,587 B2	04/27/04	Goldman et al.			12/27/00
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165								
		APPLICANT Joseph Young J. PAIK										
		FILING DATE September 18, 2003		GROUP								
<b>FOREIGN PATENT DOCUMENTS</b>												
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation						
						Yes	No					
						EP 0 932 195 A1	07/28/99	EP			X	
						EP 1 083 470 A2	03/14/01	EP			X	
GB 2 365 215 A	02/13/02	GB			X							
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>												
Sun, S.C. 1998. "CVD and PVD Transition Metal Nitrides as Diffusion Barriers for Cu Metallization." <i>IEEE</i> . pp. 243-246.												
Tagami, M., A. Furuya, T. Onodera, and Y. Hayashi. 1999. "Layered Ta-nitrides (LTN) Barrier Film by Power Swing Sputtering (PSS) Technique for MOCVD-Cu Damascene Interconnects." <i>IEEE</i> . pp. 635-638.												
Yamagishi, H., Z. Tokei, G.P. Beyer, R. Donaton, H. Bender, T. Nogami, and K. Maex. 2000. "TEM/SEM Investigation and Electrical Evaluation of a Bottomless I-PVD TA(N) Barrier in Dual Damascene" (Abstract). <i>Advanced Metallization Conference 2000</i> . San Diego, CA.												
Eisenbraun, Eric, Oscar van der Straten, Yu Zhu, Katharine Dovidenco, and Alain Kaloyerous. 2001. "Atomic Layer Deposition (ALD) of Tantalum-Based Materials for Zero Thickness Copper Barrier Applications" (Abstract). <i>IEEE</i> . pp. 207-209.												
Smith, S.R., K.E. Elers, T. Jacobs, V. Blaschke, and K. Pfeifer. 2001. "Physical and Electrical Characterization of ALD Tin Used as a Copper Diffusion Barrier in 0.25 mum, Dual Damascene Backend Structures" (Abstract). <i>Advanced Metallization Conference 2001</i> . Montreal, Quebec.												
Kim, Y.T. and H. Sim. 2002. "Characteristics of Pulse Plasma Enhanced Atomic Layer Deposition of Tungsten Nitride Diffusion Barrier for Copper Interconnect" (Abstract). <i>IEIC Technical Report</i> . Vol. 102, No. 178, pp. 115-118.												
Elers, Kai-Erik, Ville Saanila, Pekka J. Soininen, Wei-Min Li, Juhana T. Kostamo, Suvi Haukka, Jyrki Juhanoja, and Wim F.A. Besling. 2002. "Diffusion Barrier Deposition on a Copper Surface by Atomic Layer Deposition" (Abstract). <i>Advanced Materials</i> . Vol. 14, No. 13-14, pp. 149-153.												
Peng, C.H., C.H. Hsieh, C.L. Huang, J.C. Lin, M.H. Tsai, M.W. Lin, C.L. Chang, Winston S. Shue, and M.S. Liang. 2002. "A 90nm Generation Copper Dual Damascene Technology with ALD TaN Barrier." <i>IEEE</i> . pp. 603-606.												
Van der Straten, O., Y. Zhu, E. Eisenbraun, and A. Kaloyerous. 2002. "Thermal and Electrical Barrier Performance Testing of Ultrathin Atomic Layer Deposition Tantalum-Based Materials for Nanoscale Copper Metallization." <i>IEEE</i> . pp. 188-190.												
Wu, Z.C., Y.C. Lu, C.C. Chiang, M.C. Chen, B.T. Chen, G.J. Wang, Y.T. Chen, J.L. Huang, S.M. Jang, and M.S. Liang. 2002. "Advanced Metal Barrier Free Cu Damascene Interconnects with PECVD Silicon Carbide Barriers for 90/65-nm BEOL Technology." <i>IEEE</i> . pp. 595-598.												
July 25, 2003. International Search Report for PCT/US02/24858.												
March 30, 2004. Written Opinion for PCT/US02/19062.												
April 9, 2004. Written Opinion for PCT/US02/19116.												
April 22, 2004. Office Action for U.S. Serial No. 09/998,372, filed November 30, 2001.												
EXAMINER				DATE CONSIDERED								

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
APPLICANT Joseph Young J. PAIK			
FILING DATE September 18, 2003		GROUP	
<b>OTHER ART</b> (Including Author, Title, Date, Pertinent Pages, Etc.)			
April 28, 2004. Written Opinion for PCT/US02/19117.			
April 29, 2004. Written Opinion for PCT/US02/19061.			
May 5, 2004. Office Action for U.S. Serial No. 09/943,955, filed August 31, 2001.			
May 5, 2004. International Preliminary Examination Report for PCT/US01/27406.			
May 28, 2004. Office Action for U.S. Serial No. 09/943,383, filed August 31, 2001.			
June 3, 2004. Office Action for U.S. Serial No. 09/928,474, filed August 14, 2001.			
June 23, 2004. Office Action for U.S. Serial No. 10/686,589, filed October 17, 2003.			
June 30, 2004. Office Action for U.S. Serial No. 09/800,980, filed March 8, 2001.			
July 12, 2004. Office Action for U.S. Serial No. 10/173,108, filed June 8, 2002.			
EXAMINER		DATE CONSIDERED	

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE  
CITATION IN AN  
APPLICATION  
(PTO-1449)**



ATTY. DOCKET NO.  
007734 FPS/MMCS/APC

SERIAL NO.  
10/665,165

**APPLICANT**

**FILING DATE**  
September 18, 2003

**U.S. PATENT DOCUMENTS**

**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

## **EXAMINER**

**DATE CONSIDERED**

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165
				APPLICANT Joseph Young J. PAIK		
				FILING DATE September 18, 2003		GROUP
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	3,205,485	09/07/65	Noltingk			10/21/60
	3,229,198	01/11/66	Libby			09/28/62
	3,767,900	10/23/73	Chao et al.			06/23/71
	3,920,965	11/18/75	Sohrwardy			03/04/74
	4,000,458	12/28/76	Miller et al.			08/21/75
	4,207,520	06/10/80	Flora et al.			04/06/78
	4,209,744	06/24/80	Gerasimov et al.			03/27/78
	4,302,721	11/24/81	Urbanek et al.			05/15/79
	4,368,510	01/11/83	Anderson			10/20/80
	4,609,870	09/02/86	Lale et al.			09/13/84
	4,616,308	10/07/86	Morshedi et al.			12/02/85
	4,663,703	05/05/87	Axelby et al.			10/02/85
	4,698,766	10/06/87	Entwistle et al.			05/17/85
	4,750,141	06/07/88	Judell et al.			11/26/85
	4,755,753	07/05/88	Chern			07/23/86
	4,757,259	07/12/88	Charpentier			11/05/86
	4,796,194	01/03/89	Atherton			08/20/86
	4,901,218	02/13/90	Cornwell			03/04/88
	4,938,600	07/03/90	Into			02/09/89
	4,967,381	10/30/90	Lane et al.			07/06/89
	5,089,970	02/18/92	Lee et al.			10/05/89
	5,108,570	04/28/92	Wang			03/30/90
	5,208,765	05/04/93	Turnbull			07/20/90
	5,220,517	06/15/93	Sierk et al.			08/31/90
	5,226,118	07/06/93	Baker et al.			01/29/91
	5,231,585	07/27/93	Kobayashi et al.			06/20/90
	5,236,868	08/17/93	Nulman			04/20/90
	5,260,868	11/09/93	Gupta et al.			10/15/91
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)			ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165		
			APPLICANT Joseph Young J. PAIK			
			FILING DATE September 18, 2003	GROUP		
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,270,222	12/14/93	Moslehi			12/31/90
	5,283,141	02/01/94	Yoon et al.			03/05/92
	5,295,242	03/15/94	Mashruwala et al.			11/02/90
	5,309,221	05/03/94	Fischer et al.			12/31/91
	5,329,463	07/12/94	Sierk et al.			01/13/93
	5,338,630	08/16/94	Yoon et al.			11/18/93
	5,347,446	09/13/94	Iino et al.			02/10/92
	5,367,624	11/22/94	Cooper			06/11/93
	5,375,064	12/20/94	Bollinger			12/02/93
	5,398,336	03/14/95	Tantry et al.			06/16/93
	5,402,367	03/28/95	Sullivan et al.			07/19/93
	5,408,405	04/18/95	Mozumder et al.			09/20/93
	5,410,473	04/25/95	Kaneko et al.			12/16/92
	5,420,796	05/30/95	Weling et al.			12/23/93
	5,427,878	06/27/95	Corliss			05/16/94
	5,469,361	11/21/95	Moyne			06/06/94
	5,485,082	01/16/96	Wisspeintner et al.			04/05/90
	5,490,097	02/06/96	Swenson et al.			08/06/93
	5,495,417	02/27/96	Fuduka et al.			03/16/93
	5,497,316	03/05/96	Sierk et al.			04/04/95
	5,497,381	03/05/96	O'Donoghue et al.			06/01/95
	5,503,707	04/02/96	Maung et al.			09/22/93
	5,508,947	04/16/96	Sierk et al.			05/13/94
	5,511,005	04/23/96	Abbe et al.			02/16/94
	5,519,605	05/21/96	Cawlfieid			10/24/94
	5,525,808	06/11/96	Irie et al.			12/20/94
	5,526,293	06/11/96	Mozumder et al.			12/17/93
	5,534,289	07/09/96	Bilder et al.			01/03/95
	5,541,510	07/30/96	Danielson			04/06/95
EXAMINER			DATE CONSIDERED			

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)			ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165		
			APPLICANT Joseph Young J. PAIK			
			FILING DATE September 18, 2003	GROUP		
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,546,312	08/13/96	Mozumder et al.			02/24/94
	5,553,195	09/03/96	Meijer			09/29/94
	5,586,039	12/17/96	Hirsch et al.			02/27/95
	5,599,423	02/04/97	Parker et al.			06/30/95
	5,602,492	02/11/97	Cresswell et al.			04/28/94
	5,603,707	02/18/97	Trombetta et al.			11/28/95
	5,617,023	04/01/97	Skalski			02/02/95
	5,627,083	05/06/97	Tounai			05/12/95
	5,629,216	05/13/97	Wijaranakula et al.			02/27/96
	5,642,296	06/24/97	Saxena			07/29/93
	5,646,870	07/08/97	Krivokapic et al.			02/13/95
	5,649,169	07/15/97	Berezin et al.			06/20/95
	5,654,903	08/05/97	Reitman et al.			11/07/95
	5,655,951	08/12/97	Meikle et al.			09/29/95
	5,657,254	08/12/97	Sierk et al.			04/15/96
	5,661,669	08/26/97	Mozumder et al.			06/07/95
	5,663,797	09/02/97	Sandhu			05/16/96
	5,664,987	09/09/97	Renteln			09/04/96
	5,666,297	09/09/97	Britt et al.			05/13/94
	5,667,424	09/16/97	Pan			09/25/96
	5,674,787	10/07/97	Zhao et al.			01/16/96
	5,694,325	12/02/97	Fukuda et al.			11/22/95
	5,698,989	12/16/97	Nulman			09/13/96
	5,719,495	02/17/98	Moslehi			06/05/96
	5,719,796	02/17/98	Chen			12/04/95
	5,735,055	04/07/98	Hochbein et al.			04/23/96
	5,740,429	04/14/98	Wang et al.			07/07/95
EXAMINER			DATE CONSIDERED			

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165	
				APPLICANT Joseph Young J. PAIK		
				FILING DATE September 18, 2003	GROUP	
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,751,582	05/12/98	Saxena et al.			09/24/96
	5,754,297	05/19/98	Nulman			04/14/97
	5,761,064	06/02/98	La et al.			10/06/95
	5,761,065	06/02/98	Kittler et al.			03/30/95
	5,764,543	06/09/98	Kennedy			06/16/95
	5,777,901	07/07/98	Berezin et al.			09/29/95
	5,787,021	07/28/98	Samaha			12/18/95
	5,787,269	07/28/98	Hyodo			09/19/95
	5,808,303	09/15/98	Schlagheck et al.			01/29/97
	5,812,407	09/22/98	Sato et al.			08/12/97
	5,823,854	10/20/98	Chen			05/28/96
	5,825,913	10/20/98	Rostami et al.			07/18/95
	5,828,778	10/27/98	Hagi et al.			07/12/96
	5,832,224	11/03/98	Fehskens et al.			06/14/96
	5,838,595	11/17/98	Sullivan et al.			11/25/96
	5,844,554	12/01/98	Geller et al.			09/17/96
	5,857,258	01/12/99	Penzes et al.			05/12/94
	5,859,964	01/12/99	Wang et al.			10/25/96
	5,859,975	01/12/99	Brewer et al.			08/09/96
	5,862,054	01/19/99	Li			02/20/97
	5,863,807	01/26/99	Jang et al.			03/15/96
	5,867,389	02/02/99	Hamada et al.			11/26/96
	5,870,306	02/09/99	Harada			06/13/97
	5,883,437	03/16/99	Maruyama et al.			12/28/95
	5,889,991	03/30/99	Consolatti et al.			12/06/96
	5,901,313	05/04/99	Wolfe et al.			09/02/97
	5,903,455	05/11/99	Sharpe, Jr. et al.			12/12/96
	5,910,011	06/08/99	Cruse			05/12/97
	5,910,846	06/08/99	Sandhu			08/19/97
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)			ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165	
			APPLICANT Joseph Young J. PAIK			
			FILING DATE September 18, 2003		GROUP	
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,912,678	06/15/99	Saxena et al.			04/14/97
	5,916,016	06/29/99	Bothra			10/23/97
	5,923,553	07/13/99	Yi			10/05/96
	5,926,690	07/20/99	Toprac et al.			05/28/97
	5,930,138	07/27/99	Lin et al.			09/10/97
	5,940,300	08/17/99	Ozaki			05/08/97
	5,943,237	08/24/99	Van Boxem			10/17/97
	5,960,185	09/28/99	Nguyen			06/24/96
	5,960,214	09/28/99	Sharpe, Jr. et al.			12/04/96
	5,961,369	10/05/99	Bartels et al.			06/04/98
	5,963,881	10/05/99	Kahn et al.			10/20/97
	5,978,751	11/02/99	Pence et al.			02/25/97
	5,982,920	11/09/99	Tobin, Jr. et al.			01/08/97
	6,002,989	12/14/99	Shiba et al.			04/01/97
	6,017,771	01/25/00	Yang et al.			04/27/98
	6,036,349	03/14/00	Gombar			07/26/96
	6,041,263	03/21/00	Boston et al.			10/01/97
	6,041,270	03/21/00	Steffan et al.			12/05/97
	6,054,379	04/25/00	Yau et al.			02/11/98
	6,064,759	05/16/00	Buckley et al.			11/06/97
	6,072,313	06/06/00	Li et al.			06/17/97
	6,074,443	06/13/00	Venkatesh et al.			01/29/98
	6,077,412	06/20/00	Ting et al.			10/30/98
	6,078,845	06/20/00	Friedman			11/25/96
	6,094,688	07/25/00	Mellen-Garnett et al.			03/12/98
	6,097,887	08/01/00	Hardikar et al.			10/27/97
	6,108,092	08/22/00	Sandhu			06/08/99
	6,111,634	08/29/00	Pecen et al.			05/28/97
	6,112,130	08/29/00	Fukuda et al.			10/01/97
EXAMINER			DATE CONSIDERED			

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165
				APPLICANT Joseph Young J. PAIK		
				FILING DATE September 18, 2003	GROUP	
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	6,127,263	10/03/00	Parikh			07/10/98
	6,128,016	10/03/00	Coelho et al.			12/20/96
	6,136,163	10/24/00	Cheung et al.			03/05/99
	6,141,660	10/31/00	Bach et al.			07/16/98
	6,143,646	11/07/00	Wetzel			06/03/97
	6,148,099	11/14/00	Lee et al.			07/03/97
	6,148,239	11/14/00	Funk et al.			12/12/97
	6,148,246	11/14/00	Kawazome			06/10/98
	6,150,664	11/21/00	Su			06/29/99
	6,159,075	12/12/00	Zhang			10/13/99
	6,159,644	12/12/00	Satoh et al.			03/06/96
	6,161,054 B1	12/12/00	Rosenthal et al.			09/17/98
	6,172,756 B1	01/09/01	Chalmers et al.			12/11/98
	6,173,240 B1	01/09/01	Sepulveda et al.			11/02/98
	6,175,777 B1	01/16/01	Kim			01/16/98
	6,178,390 B1	01/23/01	Jun			09/08/98
	6,183,345 B1	02/06/01	Kamono et al.			03/20/98
	6,185,324 B1	02/06/01	Ishihara et al.			01/31/95
	6,191,864 B1	02/20/01	Sandhu			02/29/00
	6,192,291 B1	02/20/01	Kwon			10/08/98
	6,197,604 B1	03/06/01	Miller et al.			10/01/98
	6,204,165 B1	03/20/01	Ghoshal			06/24/99
	6,210,983 B1	04/03/01	Atchison et al.			06/15/99
	6,211,094 B1	04/03/01	Jun et al.			08/23/99
	6,214,734 B1	04/10/01	Bothra et al.			11/20/98
	6,217,412 B1	04/17/01	Campbell et al.			08/11/99
	6,219,711 B1	04/17/01	Chari			10/01/97
	6,222,936 B1	04/24/01	Phan et al.			09/13/99
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165	
				APPLICANT Joseph Young J. PAIK		
				FILING DATE September 18, 2003	GROUP	
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	6,226,792 B1	05/01/01	Goiffon et al.			10/14/98
	6,236,903 B1	05/22/01	Kim et al.			09/25/98
	2001/0001755 A1	05/24/01	Sandhu et al.			12/29/00
	6,240,330 B1	05/29/01	Kurtzberg et al.			05/28/97
	6,240,331 B1	05/29/01	Yun			08/18/98
	2001/0003084 A1	06/07/01	Finarov			12/04/00
	6,245,581 B1	06/12/01	Bonser et al.			04/19/00
	6,246,972 B1	06/12/01	Klimasauskas			05/27/99
	6,248,602 B1	06/19/01	Bode et al.			11/01/99
	6,249,712 B1	06/19/01	Boiquaye			09/25/96
	6,252,412 B1	06/26/01	Talbot et al.			01/08/99
	6,253,366 B1	06/26/01	Mutschler, III			03/31/99
	6,263,255 B1	07/17/01	Tan et al.			05/18/98
	6,271,670 B1	08/07/01	Caffey			02/08/99
	6,276,989 B1	08/21/01	Campbell et al.			08/11/99
	6,278,899 B1	08/21/01	Piche et al.			10/06/98
	6,280,289 B1	08/28/01	Wiswesser et al.			11/02/98
	6,284,622 B1	09/04/01	Campbell et al.			10/25/99
	6,287,879 B1	09/11/01	Gonzales et al.			08/11/99
	6,292,708 B1	09/18/01	Allen et al.			06/11/98
	6,298,274 B1	10/02/01	Inoue			09/01/99
	6,298,470 B1	10/02/01	Breiner et al.			04/15/99
	6,303,395 B1	10/16/01	Nulman			06/01/99
	6,304,999 B1	10/16/01	Toprac et al.			10/23/00
	2001/0030366 A1	10/18/01	Nakano et al.			03/07/01
	6,307,628 B1	10/23/01	Lu et al.			08/18/00
	6,314,379 B1	11/06/01	Hu et al.			12/04/97
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165		
		APPLICANT Joseph Young J. PAIK				
		FILING DATE September 18, 2003		GROUP		
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	2001/0040997 A1	11/15/01	Tsap et al.			05/15/01
	6,320,655 B1	11/20/01	Matsushita et al.			03/15/00
	2001/0042690 A1	11/22/01	Talieh			12/14/00
	2001/0044667 A1	11/22/01	Nakano et al.			05/16/01
	6,324,481 B1	11/27/01	Atchison et al.			06/15/99
	6,336,841 B1	01/08/02	Chang			03/29/01
	6,340,602 B1	01/22/02	Johnson et al.			02/12/01
	6,345,288 B1	02/05/02	Reed et al.			05/15/00
	6,345,315 B1	02/05/02	Mishra			08/12/98
	6,346,426 B1	02/12/02	Toprac et al.			11/17/00
	2002/0032499	03/14/02	Wilson et al.			05/04/01
	6,360,133 B1	03/19/02	Campbell et al.			06/17/99
	6,360,184 B1	03/19/02	Jacquez			03/26/97
	6,363,294 B1	03/26/02	Coronel et al.			12/29/98
	6,366,934 B1	04/02/02	Cheng et al.			06/02/99
	6,368,879 B1	04/09/02	Toprac			09/22/99
	6,368,883 B1	04/09/02	Bode et al.			08/10/99
	6,368,884 B1	04/09/02	Goodwin et al.			04/13/00
	6,388,253 B1	05/14/02	Su			11/02/00
	6,389,491 B1	05/14/02	Jacobson et al.			03/23/99
	6,395,152 B1	05/28/02	Wang			07/02/99
	6,397,114 B1	05/28/02	Eryurek et al.			05/03/99
	6,400,162 B1	06/04/02	Mallory et al.			07/21/00
	6,405,096 B1	06/11/02	Toprac et al.			08/10/99
	6,405,144 B1	06/11/02	Toprac et al.			01/18/00
EXAMINER		DATE CONSIDERED				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165
				APPLICANT Joseph Young J. PAIK		
				FILING DATE September 18, 2003		GROUP
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	2002/0070126 A1	06/13/02	Sato et al.			09/19/01
	2002/0077031 A1	06/20/02	Johannson et al.			07/06/01
	2002/0081951 A1	06/27/02	Boyd et al.			02/20/02
	2002/0089676 A1	07/11/02	Pecen et al.			04/26/00
	2002/0102853 A1	08/01/02	Li et al.			12/20/01
	2002/0107599 A1	08/08/02	Patel et al.			01/25/01
	2002/0107604 A1	08/08/02	Riley et al.			12/06/00
	6,435,952 B1	08/20/02	Boyd et al.			06/30/00
	6,438,438 B1	08/20/02	Takagi et al.			01/02/98
	2002/0113039 A1	08/22/02	Mok et al.			02/16/01
	6,440,295 B1	08/27/02	Wang			02/04/00
	6,442,496 B1	08/27/02	Pasadyn et al.			08/08/00
	2002/0127950 A1	09/12/02	Hirose et al.			03/08/01
	2002/0128805 A1	09/12/02	Goldman et al.			12/26/00
	6,455,937 B1	09/24/02	Cunningham			03/17/99
	2002/0149359 A1	10/17/02	Crouzen et al.			08/18/01
	6,470,230 B1	10/22/02	Toprac et al.			01/04/00
	6,479,902 B1	11/12/02	Lopatin et al.			06/29/00
	6,479,990 B2	11/12/02	Mednikov et al.			06/18/01
	6,482,660 B2	11/19/02	Conchieri et al.			03/19/01
	6,486,492 B1	11/26/02	Su			11/20/00
	6,492,281 B1	12/10/02	Song et al.			09/22/00
	2002/0185658 A1	12/12/02	Inoue et al.			06/14/01
	2002/0193902 A1	12/19/02	Shanmugasundram et al.			06/18/02
	2002/0197745 A1	12/26/02	Shanmugasundram et al.			08/31/01
	2002/0197934 A1	12/26/02	Paik			11/30/01
	2002/0199082 A1	12/26/02	Shanmugasundram et al.			06/18/02
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE  
CITATION IN AN  
APPLICATION  
(PTO-1449)**

ATTY. DOCKET NO.  
007734 FPS/MMCS/APCSERIAL NO.  
10/665,165**APPLICANT**

Joseph Young J. PAIK

**FILING DATE**

September 18, 2003

**GROUP****U.S. PATENT DOCUMENTS**

EXAMINER'S INITIALS	PATENT APP. NO.	FILING DATE	NAME	TITLE	CLASS	SUB-CLASS
	09/363,966	07/29/99	Arackaparambil et al.	Computer Integrated Manufacturing Techniques		
	09/469,227	12/22/99	Somekh et al.	Multi-Tool Control System, Method and Medium		
	09/619,044	07/19/00	Yuan	System and Method of Exporting or Importing Object Data in a Manufacturing Execution System		
	09/637,620	08/11/00	Chi et al.	Generic Interface Builder		
	09/656,031	09/06/00	Chi et al.	Dispatching Component for Associating Manufacturing Facility Service Requestors with Service Providers		
	09/655,542	09/06/00	Yuan	System, Method and Medium for Defining Palettes to Transform an Application Program Interface for a Service		
	09/725,908	11/30/00	Chi et al.	Dynamic Subject Information Generation in Message Services of Distributed Object Systems		
	09/800,980	03/08/01	Hawkins et al.	Dynamic and Extensible Task Guide		
	09/811,667	03/20/01	Yuan et al.	Fault Tolerant and Automated Computer Software Workflow		
	09/927,444	08/13/01	Ward et al.	Dynamic Control of Wafer Processing Paths in Semiconductor Manufacturing Processes		
	09/928,473	08/14/01	Koh	Tool Services Layer for Providing Tool Service Functions in Conjunction with Tool Functions		
	09/928,474	08/14/01	Krishnamurthy et al.	Experiment Management System, Method and Medium		
	09/943,383	08/31/01	Shanmugasundram et al.	In Situ Sensor Based Control of Semiconductor Processing Procedure		
	09/943,955	08/31/01	Shanmugasundram et al.	Feedback Control of a Chemical Mechanical Polishing Device Providing Manipulation of Removal Rate Profiles		
	09/998,372	11/30/01	Paik	Control of Chemical Mechanical Polishing Pad Conditioner Directional Velocity to Improve Pad Life		
	09/998,384	11/30/01	Paik	Feedforward and Feedback Control for Conditioning of Chemical Mechanical Polishing Pad		
<b>EXAMINER</b>				<b>DATE CONSIDERED</b>		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE  
CITATION IN AN  
APPLICATION  
(PTO-1449)**

ATTY. DOCKET NO.  
007734 FPS/MMCS/APCSERIAL NO.  
10/665,165APPLICANT  
Joseph Young J. PAIKFILING DATE  
September 18, 2003

GROUP

**U.S. PATENT DOCUMENTS**

EXAMINER'S INITIALS	PATENT APP. NO.	FILING DATE	NAME	TITLE	CLASS	SUB-CLASS
	10/084,092	02/28/02	Arackaparambil et al.	Computer Integrated Manufacturing Techniques		
	10/100,184	03/19/02	Al-Bayati et al.	Method, System and Medium for Controlling Semiconductor Wafer Processes Using Critical Dimension Measurements		
	10/135,405	05/01/02	Reiss et al.	Integration of Fault Detection with Run-to-Run Control		
	10/135,451	05/01/02	Shanmugasundram et al.	Dynamic Metrology Schemes and Sampling Schemes for Advanced Process Control in Semiconductor Processing		
	10/172,977	06/18/02	Shanmugasundram et al.	Method, System and Medium for Process Control for the Matching of Tools, Chambers and/or Other Semiconductor-Related Entities		
	10/173,108	06/18/02	Shanmugasundram et al.	Integrating Tool, Module, and Fab Level Control		
	10/174,370	06/18/02	Shanmugasundram et al.	Feedback Control of Plasma-Enhanced Chemical Vapor Deposition Processes		
	10/174,377	06/18/02	Schwarm et al.	Feedback Control of Sub-Atmospheric Chemical Vapor Deposition Processes		
	10/377,654	03/04/03	Kokotov et al.	Method, System and Medium for Controlling Manufacturing Process Using Adaptive Models Based on Empirical Data		
	10/393,531	03/21/03	Shanmugasundram et al.	Copper Wiring Module Control		
	10/632,107	08/01/03	Schwarm et al.	Method, System, and Medium for Handling Misrepresentative Metrology Data Within an Advanced Process Control System		
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165	
				APPLICANT Joseph Young J. PAIK		
				FILING DATE September 18, 2003	GROUP	
FOREIGN PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation
						Yes
	61-66104	04/04/86	Japan			X
	61-171147	08/01/86	Japan			X
	01-283934	11/15/89	Japan			X
	0 397 924 A1	11/22/90	Europe			X
	2,050,247	08/29/91	Canada			X
	2,165,847	08/29/91	Canada			X
	2,194,855	08/29/91	Canada			X
	3-202710	09/04/91	Japan			X
	05-151231	06/18/93	Japan			X
	05-216896	08/27/93	Japan			X
	05-266029	10/15/93	Japan			X
	06-110894	04/22/94	Japan			X
	06-176994	06/24/94	Japan			X
	06-184434	07/05/94	Japan			X
	06-252236	09/09/94	Japan			X
	06-260380	09/16/94	Japan			X
	EP 0 621 522 A2	10/26/94	Europe			X
	WO 95/34866	12/21/95	WO			X
	8-23166	01/23/96	Japan			X
	08-50161	02/20/96	Japan			X
	08-149583	06/07/96	Japan			X
	08-304023	11/22/96	Japan			X
	EP 0 747 795 A2	12/11/96	Europe			X
	09-34535	02/07/97	Japan			X
	9-246547	09/19/97	Japan			X
	WO 98/05066	02/05/98	WO			X
	10-34522	02/10/98	Japan			X
	10-173029	06/26/98	Japan			X
EXAMINER				DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)			ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165			
			APPLICANT Joseph Young J. PAIK				
			FILING DATE September 18, 2003	GROUP			
<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
	EP 0 869 652 A2	10/07/98	Europe			X	
	WO 98/45090	10/15/98	WO			X	
	EP 0 877 308 A2	11/11/98	Europe			X	
	EP 0 881 040 A2	12/02/98	Europe			X	
	EP 0 895 145 A1	02/03/99	Europe			X	
	WO 99/09371	02/25/99	WO			X	
	11-67853	03/09/99	Japan			X	
	EP 0 910 123 A1	04/21/99	Europe			X	
	11-126816	05/11/99	Japan			X	
	11-135601	05/21/99	Japan			X	
	WO 99/25520	05/27/99	WO			X	
	EP 0 932 194 A1	07/28/99	Europe			X	
	WO 99/59200	11/18/99	WO			X	
	WO 00/00874	01/06/00	WO			X	
	WO 00/05759	02/03/00	WO			X	
	WO 00/35063	06/15/00	WO			X	
	2000-183001	06/30/00	Japan			X	
	WO 00/54325	09/14/00	WO			X	
	GB 2 347 885 A	09/20/00	United Kingdom			X	
	WO 00/79355 A1	12/28/00	WO			X	
	EP 1 066 925 A2	01/10/01	Europe			X	
	EP 1 067 757 A1	01/10/01	Europe			X	
	EP 1 071 128 A2	01/24/01	Europe			X	
	WO 01/11679 A1	02/15/01	WO			X	
	WO 01/15865 A1	03/08/01	WO			X	
	WO 01/18623 A1	03/15/01	WO			X	
EXAMINER			DATE CONSIDERED				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)			ATTY. DOCKET NO. 007734 FPS/MMCS/APC		SERIAL NO. 10/665,165	
			APPLICANT Joseph Young J. PAIK			
			FILING DATE September 18, 2003	GROUP		
<b>FOREIGN PATENT DOCUMENTS</b>						
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation
						Yes
	2001-76982	03/23/01	Japan			X
	WO 01/25865 A1	04/12/01	WO			X
	EP 1 092 505 A2	04/18/01	Europe			X
	WO 01/33277 A1	05/10/01	WO			X
	WO 01/33501 A1	05/10/01	WO			X
	434103	05/16/01	Taiwan			X
	436383B	05/28/01	Taiwan			X
	WO 01/52055 A3	07/19/01	WO			X
	WO 01/52319 A1	07/19/01	WO			X
	WO 01/57823 A2	08/09/01	WO			X
	455938B	09/21/01	Taiwan			X
	455976	09/21/01	Taiwan			X
	2001-284299	10/12/01	Japan			X
	WO 01/80306 A2	10/25/01	WO			X
	2001-305108	10/31/01	Japan			X
	EP 1 072 967 A3	11/21/01	Europe			X
	2002-9030	01/11/02	Japan			X
	EP 1 182 526 A2	02/27/02	Europe			X
	WO 02/17150 A1	02/28/02	WO			X
	WO 02/31613 A2	04/18/02	WO			X
	WO 02/31613 A3	04/18/02	WO			X
	WO 02/33737 A2	04/25/02	WO			X
	WO 02/074491 A1	09/26/02	WO			X
	2002-343754	11/29/02	Japan			X
EXAMINER			DATE CONSIDERED			

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
		APPLICANT Joseph Young J. PAIK	
		FILING DATE September 18, 2003	GROUP
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
Miller, G. L., D. A. H. Robinson, and J. D. Wiley. July 1976. "Contactless measurement of semiconductor conductivity by radio frequency-free-carrier power absorption." <i>Rev. Sci. Instrum.</i> , Volume 47, No. 7. pp. 799 – 805.			
Ostanin, Yu.Ya. October 1981. "Optimization of Thickness Inspection of Electrically Conductive Single-Layer Coatings with Laid-on Eddy-Current Transducers (Abstract)." <i>Defektoskopiya</i> , vol. 17, no. 10, pp. 45-52. Moscow, USSR.			
February 1984. "Method and Apparatus of in Situ Measurement and Overlay Error Analysis for Correcting Step and Repeat Lithographic Cameras." <i>IBM Technical Disclosure Bulletin</i> , pp. 4855-4859.			
February 1984. "Substrate Screening Process." <i>IBM Technical Disclosure Bulletin</i> , pp. 4824-4825.			
October 1984. "Method to Characterize the Stability of a Step and Repeat Lithographic System." <i>IBM Technical Disclosure Bulletin</i> , pp. 2857-2860.			
Levine, Martin D. 1985. <i>Vision in Man and Machine</i> . New York: McGraw-Hill, Inc. pp. ix-xii, 1-58.			
Herrmann, D. 1988. "Temperature Errors and Ways of Elimination for Contactless Measurement of Shaft Vibrations (Abstract)." <i>Technisches Messen™</i> , vol. 55, no. 1, pp. 27-30. West Germany.			
Lin, Kuang-Kuo and Costas J. Spanos. November 1990. "Statistical Equipment Modeling for VLSI Manufacturing: An Application for LPCVD." <i>IEEE Transactions on Semiconductor Manufacturing</i> , v. 3, n. 4, pp. 216-229.			
Runyan, W. R., and K. E. Bean. 1990. "Semiconductor Integrated Circuit Processing Technology." pg. 48. Reading, Massachusetts: Addison-Wesley Publishing Company.			
Chang, Norman H. and Costas J. Spanos. February 1991. "Continuous Equipment Diagnosis Using Evidence Integration: An LPCVD Application." <i>IEEE Transactions on Semiconductor Manufacturing</i> , v. 4, n. 1, pp. 43-51.			
Larrabee, G. B. May 1991. "The Intelligent Microelectronics Factory of the Future (Abstract)." <i>IEEE/SEMI International Semiconductor Manufacturing Science Symposium</i> , pp. 30-34. Burlingame, CA.			
Zorich, Robert. 1991. <i>Handbook of Quality Integrated Circuit Manufacturing</i> . pp. 464-498 San Diego, California: Academic Press, Inc.			
Rampalli, Prasad, Arakere Ramesh, and Nimish Shah. 1991. <i>CEPT—A Computer-Aided Manufacturing Application for Managing Equipment Reliability and Availability in the Semiconductor Industry</i> . New York, New York: IEEE.			
May 1992. "Laser Ablation Endpoint Detector." <i>IBM Technical Disclosure Bulletin</i> , pp. 333-334.			
Spanos, Costas J., Hai-Fang Guo, Alan Miller, and Joanne Levine-Parrill. November 1992. "Real-Time Statistical Process Control Using Tool Data." <i>IEEE Transactions on Semiconductor Manufacturing</i> , v. 5, n. 4, pp. 308-318.			
February 1993. "Electroless Plating Scheme to Hermetically Seal Copper Features." <i>IBM Technical Disclosure Bulletin</i> , pp. 405-406.			
EXAMINER	DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
<b>APPLICANT</b> Joseph Young J. PAIK			
<b>FILING DATE</b> September 18, 2003		<b>GROUP</b>	
<p>Scarr, J. M. and J. K. Zelisse. April 1993. "New Topology for Thickness Monitoring Eddy Current Sensors (Abstract)." <i>Proceedings of the 36<sup>th</sup> Annual Technical Conference</i>, Dallas, Texas.</p> <p>Hu, Albert, Kevin Nguyen, Steve Wong, Xiuhua Zhang, Emanuel Sachs, and Peter Renteln. 1993. "Concurrent Deployment of Run by Run Controller Using SCC Framework." <i>IEEE/SEMI International Semiconductor Manufacturing Science Symposium</i>. pp. 126-132.</p> <p>Matsuyama, Akira and Jessi Niou. 1993. "A State-of-the-Art Automation System of an ASIC Wafer Fab in Japan." <i>IEEE/SEMI International Semiconductor Manufacturing Science Symposium</i>, pp. 42-47.</p> <p>Yeh, C. Eugene, John C. Cheng, and Kwan Wong. 1993. "Implementation Challenges of a Feedback Control System for Wafer Fabrication." <i>IEEE/CHMT International Electronics Manufacturing Technology Symposium</i>, pp. 438-442.</p> <p>Kurtzberg, Jerome M. and Menachem Levanoni. January 1994. "ABC: A Better Control for Manufacturing." <i>IBM Journal of Research and Development</i>, v. 38, n. 1, pp. 11-30.</p> <p>Mozumder, Purnendu K. and Gabriel G. Barna. February 1994. "Statistical Feedback Control of a Plasma Etch Process." <i>IEEE Transactions on Semiconductor Manufacturing</i>, v. 7, n. 1, pp. 1-11.</p> <p>Muller-Heinzerling, Thomas, Ulrich Neu, Hans Georg Nurnberg, and Wolfgang May. March 1994. "Recipe-Controlled Operation of Batch Processes with Batch X." <i>ATP Automatisierungstechnische Praxis</i>, vol. 36, no. 3, pp. 43-51.</p> <p>Stoddard, K., P. Crouch, M. Kozicki, and K. Tsakalis. June-July 1994. "Application of Feedforward and Adaptive Feedback Control to Semiconductor Device Manufacturing (Abstract)." <i>Proceedings of 1994 American Control Conference - ACC '94</i>, vol. 1, pp. 892-896. Baltimore, Maryland.</p> <p>Rocha, Joao and Carlos Ramos. September 12, 1994. "Task Planning for Flexible and Agile Manufacturing Systems." <i>Intelligent Robots and Systems '94. Advanced Robotic Systems and the Real World, IROS '94. Proceedings of the IEEE/RSJ/GI International Conference on Munich, Germany 12-16 Sept. 1994</i>. New York, New York: IEEE. pp. 105-112.</p> <p>Schaper, C. D., M. M. Moslehi, K. C. Saraswat, and T. Kailath. November 1994. "Modeling, Identification, and Control of Rapid Thermal Processing Systems (Abstract)." <i>Journal of the Electrochemical Society</i>, vol. 141, no. 11, pp. 3200-3209.</p> <p>Tao, K. M., R. L. Kosut, M. Ekblad, and G. Aral. December 1994. "Feedforward Learning Applied to RTP of Semiconductor Wafers (Abstract)." <i>Proceedings of the 33<sup>rd</sup> IEEE Conference on Decision and Control</i>, vol. 1, pp. 67-72. Lake Buena Vista, Florida.</p> <p>Spanos, C. J., S. Leang, S.-Y. Ma, J. Thomson, B. Bombay, and X. Niu. May 1995. "A Multistep Supervisory Controller for Photolithographic Operations (Abstract)." <i>Proceedings of the Symposium on Process Control, Diagnostics, and Modeling in Semiconductor Manufacturing</i>, pp. 3-17.</p> <p>Moyné, James, Roland Telfeyan, Arnon Hurwitz, and John Taylor. August 1995. "A Process-Independent Run-to-Run Controller and Its Application to Chemical-Mechanical Planarization." <i>SEMI/IEEE Advanced Semiconductor Manufacturing Conference and Workshop</i>. Ann Arbor, Michigan: The University of Michigan, Electrical Engineering &amp; Computer Science Center for Display Technology &amp; Manufacturing.</p> <p>Zhou, Zhen-Hong and Rafael Reif. August 1995. "Epi-Film Thickness Measurements Using Emission Fourier Transform Infrared Spectroscopy—Part II: Real-Time <i>in Situ</i> Process Monitoring and Control." <i>IEEE Transactions on Semiconductor Manufacturing</i>, Vol. 8, No. 3.</p>			
<b>EXAMINER</b>	<b>DATE CONSIDERED</b>		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE  
CITATION IN AN  
APPLICATION  
(PTO-1449)**

ATTY. DOCKET NO.  
007734 FPS/MMCS/APC

SERIAL NO.  
10/665,165

APPLICANT  
Joseph Young J. PAIK

FILING DATE  
September 18, 2003

GROUP

**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

Telfeyan, Roland, James Moyne, Nauman Chaudhry, James Pugmire, Scott Shellman, Duane Boning, William Moyne, Arnon Hurwitz, and John Taylor. October 1995. "A Multi-Level Approach to the Control of a Chemical-Mechanical Planarization Process." Minneapolis, Minnesota: 42<sup>nd</sup> National Symposium of the American Vacuum Society.

Chang, E., B. Stine, T. Maung, R. Divecha, D. Boning, J. Chung, K. Chang, G. Ray, D. Bradbury, O. S. Nakagawa, S. Oh, and D. Bartelink. December 1995. "Using a Statistical Metrology Framework to Identify Systematic and Random Sources of Die- and Wafer-level ILD Thickness Variation in CMP Processes." Washington, D.C.: International Electron Devices Meeting.

Moyne, James R., Nauman Chaudhry, and Roland Telfeyan. 1995. "Adaptive Extensions to a Multi-Branch Run-to-Run Controller for Plasma Etching." *Journal of Vacuum Science and Technology*. Ann Arbor, Michigan: University of Michigan Display Technology Manufacturing Center.

Schmid, Hans Albrecht. 1995. "Creating the Architecture of a Manufacturing Framework by Design Patterns." Austin, Texas: OOPSLA.

Dishon, G., M. Finarov, R. Kipper, J.W. Curry, T. Schraub, D. Trojan, 4<sup>th</sup> Stambaugh, Y. Li and J. Ben-Jacob. February 1996. "On-Line Integrated Metrology for CMP Processing." Santa Clara, California: VMIC Speciality Conferences, 1<sup>st</sup> International CMP Planarization Conference.

Leang, Sovarong, Shang-Yi Ma, John Thomson, Bart John Bombay, and Costas J. Spanos. May 1996. "A Control System for Photolithographic Sequences." *IEEE Transactions on Semiconductor Manufacturing*, vol. 9, no. 2.

Smith, Taber, Duane Boning, James Moyne, Arnon Hurwitz, and John Curry. June 1996. "Compensating for CMP Pad Wear Using Run by Run Feedback Control." Santa Clara, California: Proceedings of the Thirteenth International VLSI Multilevel Interconnection Conference. pp. 437-439.

Boning, Duane S., William P. Moyne, Taber H. Smith, James Moyne, Ronald Telfeyan, Arnon Hurwitz, Scott Shellman, and John Taylor. October 1996. "Run by Run Control of Chemical-Mechanical Polishing." *IEEE Transactions on Components, Packaging, and Manufacturing Technology—Part C*, vol. 19, no. 4, pp. 307-314.

Zhe, Ning, J. R. Moyne, T. Smith, D. Boning, E. Del Castillo, Yeh Jinn-Yi, and Hurwitz. November 1996. "A Comparative Analysis of Run-to-Run Control Algorithms in Semiconductor Manufacturing Industry (Abstract)." *IEEE/SEMI 1996 Advanced Semiconductor Manufacturing Conference Workshop*, pp. 375-381.

Yasuda, M., T. Osaka, and M. Ikeda. December 1996. "Feedforward Control of a Vibration Isolation System for Disturbance Suppression (Abstract)." *Proceeding of the 35<sup>th</sup> IEEE Conference on Decision and Control*, vol. 2, pp. 1229-1233. Kobe, Japan.

Fan, Jr-Min, Ruey-Shan Guo, Shi-Chung Chang, and Kian-Huei Lee. 1996. "Abnormal Trend Detection of Sequence-Disordered Data Using EWMA Method." *IEEE/SEMI Advanced Semiconductor Manufacturing Conference*, pp. 169-174.

SEMI. [1986] 1996. "Standard for Definition and Measurement of Equipment Reliability, Availability, and Maintainability (RAM)." SEMI E10-96.

Smith, Taber and Duane Boning. 1996. "A Self-Tuning EWMA Controller Utilizing Artificial Neural Network Function Approximation Techniques." *IEEE/CPMT International Electronics Manufacturing Technology Symposium*, pp. 355-363.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
		APPLICANT Joseph Young J. PAIK	
		FILING DATE September 18, 2003	GROUP
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
Guo, Ruey-Shan, Li-Shia Huang, Argon Chen, and Jin-Jung Chen. October 1997. "A Cost-Effective Methodology for a Run-by-Run EWMA Controller." <i>6<sup>th</sup> International Symposium on Semiconductor Manufacturing</i> , pp. 61-64.			
Mullins, J. A., W. J. Campbell, and A. D. Stock. October 1997. "An Evaluation of Model Predictive Control in Run-to-Run Processing in Semiconductor Manufacturing (Abstract)." <i>Proceedings of the SPIE – The International Society for Optical Engineering Conference</i> , vol. 3213, pp. 182-189.			
Reitman, E. A., D. J. Friedman, and E. R. Lory. November 1997. "Pre-Production Results Demonstrating Multiple-System Models for Yield Analysis (Abstract)." <i>IEEE Transactions on Semiconductor Manufacturing</i> , vol. 10, no. 4, pp. 469-481.			
Durham, Jim and Myriam Roussel. 1997. "A Statistical Method for Correlating In-Line Defectivity to Probe Yield." <i>IEEE/SEMI Advanced Semiconductor Manufacturing Conference</i> , pp. 76-77.			
Shindo, Wataru, Eric H. Wang, Ram Akella, and Andrzej J. Strojwas. 1997. "Excursion Detection and Source Isolation in Defect Inspection and Classification." <i>2<sup>nd</sup> International Workshop on Statistical Metrology</i> , pp. 90-93.			
Van Zant, Peter. 1997. <i>Microchip Fabrication: A Practical Guide to Semiconductor Processing</i> . Third Edition, pp. 472-478. New York, New York: McGraw-Hill.			
Campbell, W. Jarrett, and Anthony J. Toprac. February 11-12, 1998. "Run-to-Run Control in Microelectronics Manufacturing." <i>Advanced Micro Devices</i> , TWMCC.			
Edgar, Thomas F., Stephanie W. Butler, Jarrett Campbell, Carlos Pfeiffer, Chris Bode, Sung Bo Hwang, and K.S. Balakrishnan. May 1998. "Automatic Control in Microelectronics Manufacturing: Practices, Challenges, and Possibilities." <i>Automatica</i> , Vol. 36, pp. 1567-1603, 2000.			
Moyné, James, and John Curry. June 1998. "A Fully Automated Chemical-Mechanical Planarization Process." Santa Clara, California: VLSI Multilevel Interconnection (V-MIC) Conference.			
July 1998. "Active Controller: Utilizing Active Databases for Implementing Multistep Control of Semiconductor Manufacturing (Abstract)." <i>IEEE Transactions on Components, Packaging and Manufacturing Technology—Part C</i> , vol. 21, no. 3, pp. 217-224.			
SEMI. July 1998. <i>New Standard: Provisional Specification for CIM Framework Domain Architecture</i> . Mountain View, California: SEMI Standards. SEMI Draft Doc. 2817.			
Consilium. August 1998. <i>Quality Management Component: QMC™ and QMC-Link™ Overview</i> . Mountain View, California: Consilium, Inc.			
Chemali, Chadi El, James Moyné, Kareemullah Khan, Rock Nadeau, Paul Smith, John Colt, Jonathan Chapple-Sokol, and Tarun Parikh. November 1998. "Multizone Uniformity Control of a CMP Process Utilizing a Pre and Post-Measurement Strategy." Seattle, Washington: SEMETECH Symposium.			
Consilium. 1998. <i>FAB300™</i> . Mountain View, California: Consilium, Inc.			
Fang, S. J., A. Barda, T. Janecko, W. Little, D. Outley, G. Hempel, S. Joshi, B. Morrison, G. B. Shinn, and M. Birang. 1998. "Control of Dielectric Chemical Mechanical Polishing (CMP) Using and Interferometry Based Endpoint Sensor." <i>International Proceedings of the IEEE Interconnect Technology Conference</i> , pp. 76-78.			
Khan, Kareemullah, Victor Solakhain, Anthony Ricci, Tier Gu, and James Moyné. 1998. "Run-to-Run Control of ITO Deposition Process." Ann Arbor, Michigan.			
EXAMINER	DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
		APPLICANT Joseph Young J. PAIK	
		FILING DATE September 18, 2003	GROUP
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
Suzuki, Junichi and Yoshikazu Yamamoto. 1998. "Toward the Interoperable Software Design Models: Quartet of UML, XML, DOM and CORBA." Proceedings IEEE International Software Engineering Standards Symposium. pp. 1-10.			
Consilium. January 1999. "FAB300™: Consilium's Next Generation MES Solution of Software and Services which Control and Automate Real-Time FAB Operations." <a href="http://www.consilium.com/products/fab300_page.htm#FAB300 Introduction">www.consilium.com/products/fab300_page.htm#FAB300 Introduction</a>			
Boning, Duane S., Jerry Stefani, and Stephanie W. Butler. February 1999. "Statistical Methods for Semiconductor Manufacturing." <i>Encyclopedia of Electrical Engineering</i> , J. G. Webster, Ed.			
McIntosh, John. March 1999. "Using CD-SEM Metrology in the Manufacture of Semiconductors (Abstract)." <i>JOM</i> , vol. 51, no. 3, pp. 38-39.			
Pan, J. Tony, Ping Li, Kapila Wijekoon, Stan Tsai, and Fritz Redeker. May 1999. "Copper CMP Integration and Time Dependent Pattern Effect." <i>IEEE 1999 International Interconnect Technology Conference</i> , pp. 164-166.			
Klein, Bruce. June 1999. "Application Development: XML Makes Object Models More Useful." <i>Informationweek</i> . pp. 1A-6A.			
Baliga, John. July 1999. "Advanced Process Control: Soon to be a Must." Cahners Semiconductor International. <a href="http://www.semiconductor.net/semiconductor/issues/issues/1999/jul99/docs/feature1.asp">www.semiconductor.net/semiconductor/issues/issues/1999/jul99/docs/feature1.asp</a>			
Consilium. July 1999. "Increasing Overall Equipment Effectiveness (OEE) in Fab Manufacturing by Implementing Consilium's Next-Generation Manufacturing Execution System - MES II." <i>Semiconductor Fabtech Edition 10</i> .			
Meckl, P. H. and K. Umemoto. August 1999. "Achieving Fast Motions in Semiconductor Manufacturing Machinery (Abstract)." <i>Proceedings of the 1999 IEEE International Conference on Control Applications</i> , vol. 1, pp. 725-729. Kohala Coast, HI.			
Consilium Corporate Brochure. October 1999. <a href="http://www.consilium.com">www.consilium.com</a>			
Khan, K., C. El Chemali, J. Moyne, J. Chapple-Sokol, R. Nadeau, P. Smith, C., and T. Parikh. October 1999. "Yield Improvement at the Contact Process Through Run-to-Run Control (Abstract)." <i>24<sup>th</sup> IEEE/CPMT Electronics Manufacturing Technology Symposium</i> , pp. 258-263.			
Moyne, James. October 1999. "Advancements in CMP Process Automation and Control." Hawaii: (Invited paper and presentation to) Third International Symposium on Chemical Mechanical Polishing in IC Device Manufacturing: 196 <sup>th</sup> Meeting of the Electrochemical Society.			
Williams, Randy, Dadi Gundmundsson, Kevin Monahan, Raman Nurani, Meryl Stoller and J. George Shanthikumar. October 1999. "Optimized Sample Planning for Wafer Defect Inspection," <i>Semiconductor Manufacturing Conference Proceedings, 1999 IEEE International Symposium on Santa Clara, CA</i> . Piscataway, NJ. pp. 43 – 46.			
EXAMINER	DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
<b>APPLICANT</b> Joseph Young J. PAIK			
<b>FILING DATE</b> September 18, 2003		<b>GROUP</b>	
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
Consilium. November 1999. <i>FAB300™ Update</i> .			
Ruegsegger, Steven, Aaron Wagner, James S. Freudenberg, and Dennis S. Grimard. November 1999. "Feedforward Control for Reduced Run-to-Run Variation in Microelectronics Manufacturing." <i>IEEE Transactions on Semiconductor Manufacturing</i> , vol. 12, no. 4.			
1999. "Contactless Bulk Resistivity/Sheet Resistance Measurement and Mapping Systems." <a href="http://www.lehighton.com/fabtech1/index.html">www.Lehighton.com/fabtech1/index.html</a> .			
November 1999. "How to Use EWMA to Achieve SPC and EPC Control." <i>International Symposium on NDT Contribution to the Infrastructure Safety Systems</i> , Tores, Brazil. < <a href="http://www.ndt.net/abstract/ndtiss99/data/35.htm">http://www.ndt.net/abstract/ndtiss99/data/35.htm</a> >			
Meckl, P. H. and K. Umemoto. April 2000. "Achieving Fast Motions by Using Shaped Reference Inputs [Semiconductor Manufacturing Machine] (Abstract)." <i>NEC Research and Development</i> , vol. 41, no. 2, pp. 232-237.			
Chemali, Chadi El, James Moyne, Kareemullah Khan, Rock Nadeau, Paul Smith, John Colt, Jonathan Chapple-Sokol, and Tarun Parikh. July/August 2000. "Multizone Uniformity Control of a Chemical Mechanical Polishing Process Utilizing a Pre- and Postmeasurement Strategy." <i>J. Vac. Sci. Technol. A</i> , Vol. 18(4). pp. 1287-1296. American Vacuum Society.			
Oechsner, R., T. Tschaftary, S. Sommer, L. Pfitzner, H. Ryssel, H. Gerath, C. Baier, and M. Hafner. September 2000. "Feed-forward Control for a Lithography/Etch Sequence (Abstract)." <i>Proceedings of the SPIE – The International Society for Optical Engineering Conference</i> , vol. 4182, pp. 31-39.			
Cheung, Robin. October 18, 2000. "Copper Interconnect Technology." <i>AVS/CMP User Group Meeting</i> , Santa Clara, CA.			
Edgar, Thomas F., Stephanie W. Butler, W. Jarrett Campbell, Carlos Pfeiffer, Christopher Bode, Sung Bo Hwang, K. S. Balakrishnan, and J. Hahn. November 2000. "Automatic Control in Microelectronics Manufacturing: Practices, Challenges, and Possibilities (Abstract)." <i>Automatica</i> , v. 36, n. 11.			
Khan, S., M. Musavi, and H. Ressom. November 2000. "Critical Dimension Control in Semiconductor Manufacturing (Abstract)." <i>ANNIE 2000. Smart Engineering Systems Design Conference</i> , pp. 995-1000. St. Louis, Missouri.			
ACM Research Inc. 2000. "Advanced Copper Metallization for 0.13 to 0.05 µm & Beyond." < <a href="http://acmrc.com/press/ACM-ECP-brochure.pdf">http://acmrc.com/press/ACM-ECP-brochure.pdf</a> >			
Ravid, Avi, Avner Sharon, Amit Weingarten, Vladimir Machavariani, and David Scheiner. 2000. "Copper CMP Planarity Control Using ITM." <i>IEEE/SEMI Advanced Semiconductor Manufacturing Conference</i> , pp. 437-443.			
SEMI. 2000. "Provisional Specification for CIM Framework Scheduling Component." San Jose, California. SEMI E105-1000.			
2000. "Microsense II Capacitance Gaging System." <a href="http://www.adetech.com">www.adetech.com</a> .			
Chen, Argon and Ruey-Shan Guo. February 2001. "Age-Based Double EWMA Controller and Its Application to CMP Processes." <i>IEEE Transactions on Semiconductor Manufacturing</i> , vol. 14, no. 1, pp. 11-19.			
<b>EXAMINER</b>	<b>DATE CONSIDERED</b>		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
		APPLICANT Joseph Young J. PAIK	
		FILING DATE September 18, 2003	GROUP
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
<p>March 5, 2001. "KLA-Tencor Introduces First Production-worthy Copper CMP In-situ Film Thickness and End-point Control System." <a href="http://www.kla-tencor.com/j/servlet/NewsItem?newsItemID=74">http://www.kla-tencor.com/j/servlet/NewsItem?newsItemID=74</a>.</p>			
<p>Lee, Brian, Duane S. Boning, Winthrop Baylies, Noel Poduje, Pat Hester, Yong Xia, John Valley, Chris Koliopoulos, Dale Hetherington, HongJiang Sun, and Michael Lacy. April 2001. "Wafer Nanotopography Effects on CMP: Experimental Validation of Modeling Methods." San Francisco, California: Materials Research Society Spring Meeting.</p>			
<p>Tobin, K. W., T. P. Karnowski, L. F. Arrowood, and F. Lakhani. April 2001. "Field Test Results of an Automated Image Retrieval System (Abstract)." <i>Advanced Semiconductor Manufacturing Conference, 2001 IEEE/SEMI</i>, Munich, Germany.</p>			
<p>Tan, K. K., H. F. Dou, and K. Z. Tang. May-June 2001. "Precision Motion Control System for Ultra-Precision Semiconductor and Electronic Components Manufacturing (Abstract)." <i>51<sup>st</sup> Electronic Components and Technology Conference 2001. Proceedings</i>, pp. 1372-1379. Orlando, Florida.</p>			
<p>Jensen, Alan, Peter Renteln, Stephen Jew, Chris Raeder, and Patrick Cheung. June 2001. "Empirical-Based Modeling for Control of CMP Removal Uniformity." <i>Solid State Technology</i>, Vol. 44, No. 6, pp. 101-102, 104, 106. Cowan Publ. Corp.: Washington, D.C.</p>			
<p>July 5, 2001. "Motorola and Advanced Micro Devices Buy ObjectSpace Catalyst Advanced Process Control Product for Five Wafer fabs." <i>Semiconductor FABTECH</i>. <a href="http://www.semiconductorfabtech.com/industry.news/9907/20.07.shtml">www.semiconductorfabtech.com/industry.news/9907/20.07.shtml</a></p>			
<p>Heuberger, U. September 2001. "Coating Thickness Measurement with Dual-Function Eddy-Current &amp; Magnetic Inductance Instrument (Abstract)." <i>Galvanotechnik</i>, vol. 92, no. 9, pp. 2354-2366+IV.</p>			
<p>Pilu, Maurizio. September 2001. "Undoing Page Curl Distortion Using Applicable Surfaces." <i>IEEE International Conference on Image Processing</i>. Thessalonica, Greece.</p>			
<p>October 15, 2001. Search Report prepared by the Austrian Patent Office for Singapore Patent Application No. 200004286-1.</p>			
<p>Wang, LiRen and Hefin Rowlands. 2001. "A Novel NN-Fuzzy-SPC Feedback Control System." <i>8<sup>th</sup> IEEE International Conference on Emerging Technologies and Factory Automation</i>, pp. 417-423.</p>			
<p>NovaScan 2020. February 2002. "Superior Integrated Process Control for Emerging CMP High-End Applications."</p>			
<p>March 15, 2002. Office Action for U.S. Serial No. 09/469,227, filed December 22, 1999.</p>			
<p>March 29, 2002. Office Action for U.S. Serial No. 09/363,966, filed July 29, 1999.</p>			
<p>Moyne, J., V. Solakhian, A. Yershov, M. Anderson, and D. Mockler-Hebert. April-May 2002. "Development and Deployment of a Multi-Component Advanced Process Control System for an Epitaxy Tool (Abstract)." <i>2002 IEEE Advanced Semiconductor Manufacturing Conference and Workshop</i>, pp. 125-130.</p>			
<p>Sarfaty, Moshe, Arulkumar Shanmugasundram, Alexander Schwarm, Joseph Paik, Jimin Zhang, Rong Pan, Martin J. Seamons, Howard Li, Raymond Hung, and Suketu Parikh. April-May 2002. "Advance Process Control Solutions for Semiconductor Manufacturing." Boston, Massachusetts: <i>13<sup>th</sup> Annual IEEE/SEMI Advanced Semiconductor Manufacturing Conference. Advancing the Science and Technology of Semiconductor Manufacturing. ASMC 2002</i>, pp. 101-106.</p>			
EXAMINER	DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
		APPLICANT Joseph Young J. PAIK	
		FILING DATE September 18, 2003	GROUP
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
Campbell, W. J., S. K. Firth, A. J. Toprac, and T. F. Edgar. May 2002. "A Comparison of Run-to-Run Control Algorithms (Abstract)." <i>Proceedings of 2002 American Control Conference</i> , vol. 3, pp. 2150-2155.			
Good, Richard and S. Joe Qin. May 2002. "Stability Analysis of Double EWMA Run-to-Run Control with Metrology Delay." <i>IEEE/CPMT International Electronics Manufacturing Technology Symposium</i> , pp. 355-363.			
Smith, Stewart, Anthony J. Walton, Alan W. S. Ross, Georg K. H. Bodammer, and J. T. M. Stevenson. May 2002. "Evaluation of Sheet Resistance and Electrical Linewidth Measurement Techniques for Copper Damascene Interconnect." <i>IEEE Transactions on Semiconductor Manufacturing</i> , vol. 15, no. 2, pp. 214-222.			
Johnson, Bob. June 10, 2002. "Advanced Process Control Key to Moore's Law." Gartner, Inc.			
June 20, 2002. Office Action for U.S. Serial No. 09/619,044, filed July 19, 2000.			
Itabashi, Takeyuki, Hiroshi Nakano, and Haruo Akahoshi. June 2002. "Electroless Deposited CoWB for Copper Diffusion Barrier Metal." <i>IEEE International Interconnect Technology Conference</i> , pp. 285-287.			
July 9, 2002. International Search Report for PCT/US01/24910.			
July 23, 2002. Communication Pursuant to Article 96(2) EPC for European Patent Application No. 00 115 577.9.			
July 29, 2002. International Search Report for PCT/US01/27407.			
September 26, 2002. Office Action for U.S. Serial No. 09/637,620, filed August 11, 2000.			
October 4, 2002. International Search Report for PCT/US01/22833.			
October 15, 2002. International Search Report for PCT/US02/19062.			
October 23, 2002. International Search Report for PCT/US01/27406.			
October 23, 2002. Office Action for U.S. Serial No. 09/469,227, filed December 22, 1999.			
November 7, 2002. International Search Report for PCT/US02/19061.			
November 11, 2002. International Search Report for PCT/US02/19117.			
November 12, 2002. International Search Report for PCT/US02/19063.			
December 17, 2002. Office Action for U.S. Serial No. 09/363,966, filed July 29, 1999.			
ACM Research, Inc. 2002. "ACM Ultra ECP® System: Electro-Copper Plating (ECP) Deposition." <a href="http://www.acmrc.com/ecp.html">www.acmrc.com/ecp.html</a>			
Applied Materials, Inc. 2002. "Applied Materials: Information for Everyone: Copper Electrochemical Plating." <a href="http://www.appliedmaterials.com/products/copper_electrochemical_plating.html">www.appliedmaterials.com/products/copper_electrochemical_plating.html</a>			
KLA-Tencor Corporation. 2002. "KLA Tencor: Press Release: KLA-Tencor Introduces First Production-Worthy Copper CMP In-Situ Film Thickness and End-point Control System: Multi-Million Dollar Order Shipped to Major CMP Tool Manufacturer." <a href="http://www.kla-tencor.com/news_events/press_releases/press_releases2001/984086002.html">www.kla-tencor.com/news_events/press_releases/press_releases2001/984086002.html</a>			
Sonderman, Thomas. 2002. "APC as a Competitive Manufacturing Technology: AMD's Vision for 300mm." AEC/APC.			
EXAMINER	DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**INFORMATION DISCLOSURE  
CITATION IN AN  
APPLICATION  
(PTO-1449)**

ATTY. DOCKET NO.  
007734 FPS/MMCS/APCSERIAL NO.  
10/665,165APPLICANT  
Joseph Young J. PAIKFILING DATE  
September 18, 2003

GROUP

**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

Takahashi, Shingo, Kaori Tai, Hiizu Ohtori, Naoki Komai, Yuji Segawa, Hiroshi Horikoshi, Zenya Yasuda, Hiroshi Yamada, Masao Ishihara, and Takeshi Nogami. 2002. "Fragile Porous Low-k/Copper Integration by Using Electro-Chemical Polishing." <i>2002 Symposium on VLSI Technology Digest of Technical Papers</i> , pp. 32-33.	
2002. "Microsense II – 5810: Non-Contact Capacitance Gaging Module." <a href="http://www.adetech.com">www.adetech.com</a> .	
February 10, 2003. Office Action for U.S. Serial No. 09/619,044, filed July 19, 2000.	
March 25, 2003. International Search Report for PCT/US02/24859.	
April 9, 2003. Office Action for U.S. Serial No. 09/928,474, filed August 14, 2001.	
May 8, 2003. Office Action for U.S. Serial No. 09/637,620, filed August 11, 2000.	
May 23, 2003. Written Opinion for PCT/US01/24910.	
June 18, 2003. Office Action for U.S. Serial No. 09/655,542, filed September 6, 2000.	
July 23, 2003. Invitation to Pay Additional Fees and Communication Relating to the Results of the Partial International Search for PCT/US02/19116.	
August 1, 2003. Written Opinion for PCT/US01/27406.	
August 8, 2003. PCT International Search Report from PCT/US03/08513.	
August 20, 2003. Written Opinion for PCT/US01/22833.	
August 25, 2003. Office Action for U.S. Serial No. 10/100,184, filed March 19, 2002.	
September 15, 2003. Office Action for U.S. Serial No. 09/928,474, filed August 14, 2001.	
14 October 2003. PCT International Search Report from PCT/US02/21942.	
20 October 2003. PCT International Search Report from PCT/US02/19116.	
23 October 2003. PCT International Preliminary Examination Report from PCT/US01/24910.	
November 5, 2003. Office Action for U.S. Serial No. 10/172,977, filed June 18, 2002.	
December 1, 2003. Office Action for U.S. Serial No. 10/173,108, filed June 18, 2002.	
"NanoMapper wafer nanotopography measurement by ADE Phase Shift." Printed December 9, 2003. <a href="http://www.phase-shift.com/nanomap.shtml">http://www.phase-shift.com/nanomap.shtml</a> .	
"Wafer flatness measurement of advanced wafers." Printed December 9, 2003. <a href="http://www.phase-shift.com/wafer-flatness.shtml">http://www.phase-shift.com/wafer-flatness.shtml</a> .	
"ADE Technologies, Inc. – 6360." Printed December 9, 2003. <a href="http://www.adetech.com/6360.shtml">http://www.adetech.com/6360.shtml</a> .	
"3D optical profilometer MicroXAM by ADE Phase Shift." Printed December 9, 2003. <a href="http://www.phase-shift.com/microxam.shtml">http://www.phase-shift.com/microxam.shtml</a> .	
"NanoMapper FA factory automation wafer nanotopography measurement." Printed December 9, 2003. <a href="http://www.phase-shift.com/nanomapperfa.shtml">http://www.phase-shift.com/nanomapperfa.shtml</a> .	
December 11, 2003. Office Action for U.S. Serial No. 09/943,383, filed August 31, 2001.	
<b>EXAMINER</b>	<b>DATE CONSIDERED</b>

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</b>		ATTY. DOCKET NO. 007734 FPS/MMCS/APC	SERIAL NO. 10/665,165
<b>APPLICANT</b> Joseph Young J. PAIK			
<b>FILING DATE</b> September 18, 2003	<b>GROUP</b>		
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
December 16, 2003. International Search Report for PCT/US03/23964.			
Cunningham, James A. 2003. "Using Electrochemistry to Improve Copper Interconnects." < <a href="http://www.e-insite.net/semiconductor/index.asp?layout=article&amp;articleid=CA47465">http://www.e-insite.net/semiconductor/index.asp?layout=article&amp;articleid=CA47465</a> >			
January 20, 2004. Office Action for U.S. Serial No. 09/927,444, filed August 13, 2001.			
January 23, 2004. International Search Report for PCT/US02/24860.			
February 2, 2004. Office Action for U.S. Serial No. 09/363,966, filed July 29, 1999.			
Adams, Bret W., Bogdan Swedek, Rajeev Bajaj, Fritz Redeker, Manush Birang, and Gregory Amico. "Full-Wafer Endpoint Detection Improves Process Control in Copper CMP." <i>Semiconductor Fabtech</i> – 12 <sup>th</sup> Edition. Applied Materials, Inc., Santa Clara, CA.			
Berman, Mike, Thomas Bibby, and Alan Smith. "Review of In Situ & In-line Detection for CMP Applications." <i>Semiconductor Fabtech</i> , 8 <sup>th</sup> Edition, pp. 267-274.			
Dishon, G., D. Eylon, M. Finarov, and A. Shulman. "Dielectric CMP Advanced Process Control Based on Integrated Monitoring." Ltd. Rehoveth, Israel: Nova Measuring Instruments.			
"Semiconductor Manufacturing: An Overview." < <a href="http://users.ece.gatech.edu/~gmay/overview.html">http://users.ece.gatech.edu/~gmay/overview.html</a> >			
EXAMINER		DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.